PALM Intranet

Application Number SEARCH

IDS Flag Clearance for Application 10757051

IDS Information

Content	Mailroom Date	Entry Number	IDS Review	Reviewer
M844	05-17-2004	13	☑	06-18-2004 11:36:31 sgarnett
M844	12-20-2005	32	☑	12-28-2005 15:52:28 sdavis1

UPDATE

WEST Search History

Hide Items | Restore | Clear | Cancel

DATE: Monday, February 06, 2006

Hide?	Set Name	Query	Hit Count
		DB=PGPB,USPT,USOC,EPAB,JPAB,DWPI,TDBD; PLUR=YES; OP=ADJ	
☐	L120	L117 and (((horizontal$2 or transvers$4 or orthogonal$2 or perpendicular$2) with (vertical$2 or longitud$6 or parallel) with (permeability or permeabl$3)) same ((horizontal$2 or transvers$4 or orthogonal$2 or perpendicular$2) with (vertical$2 or longitud$6 or parallel) with (resistiv$5)) same (ratio))	3
☐	L119	l117 and (((horizontal$2 or transvers$4 or orthogonal$2 or perpendicular$2) with (vertical$2 or longitud$6 or parallel) with (permeability or permeabl$3)) same ((horizontal$2 or transvers$4 or orthogonal$2 or perpendicular$2) with (vertical$2 or longitud$6 or parallel) with ((inverse or invert$4 or inversion) with (conductiv$5))))	0
☐	L118	L117 and (((horizontal$2 or transvers$4 or orthogonal$2 or perpendicular$2) with (vertical$2 or longitud$6 or parallel) with (permeability or permeabl$3)) same ((horizontal$2 or transvers$4 or orthogonal$2 or perpendicular$2) with (vertical$2 or longitud$6 or parallel) with (resistiv$5)))	7
☐	L117	((324/303-377.ccls.) or (166/252.5.ccls.) or (166/250.02.ccls.) or (702/007.ccls.) or (073/152.01.ccls.) or (073/152.02.ccls.) or (073/152.03.ccls.) or (073/152.06.ccls.) or (073/153.47.ccls.) or (073/153.48.ccls.))	14372
☐	L116	(((horizontal$2 or transvers$4 or orthogonal$2 or perpendicular$2) with (vertical$2 or longitud$6 or parallel) with (permeability or permeabl$3)) same ((horizontal$2 or transvers$4 or orthogonal$2 or perpendicular$2) with (vertical$2 or longitud$6 or parallel) with ((inverse or invert$4 or inversion) with (conductiv$5))))	1
☐	L115	L114 and L78	3
☐	L114	L77 and (((horizontal$2 or transvers$4 or orthogonal$2 or perpendicular$2) with (vertical$2 or longitud$6 or parallel) with (permeability or permeabl$3)) same ((horizontal$2 or transvers$4 or orthogonal$2 or perpendicular$2) with (vertical$2 or longitud$6 or parallel) with (resistiv$5)) same (ratio))	4
☐	L113	L82 and (((horizontal$2 or transvers$4 or orthogonal$2 or perpendicular$2) with (vertical$2 or longitud$6 or parallel) with (permeability or permeabl$3)) same ((horizontal$2 or transvers$4 or orthogonal$2 or perpendicular$2) with (vertical$2 or longitud$6 or parallel) with (resistiv$5)) same (ratio))	3
☐	L112	L84 and (((horizontal$2 or transvers$4 or orthogonal$2 or perpendicular$2) with (vertical$2 or longitud$6 or parallel) with (permeability or permeabl$3)) same ((horizontal$2 or transvers$4 or orthogonal$2 or perpendicular$2) with (vertical$2 or longitud$6 or parallel) with (resistiv$5)) same (ratio))	3
☐	L111	L87 and (((horizontal$2 or transvers$4 or orthogonal$2 or perpendicular$2) with (vertical$2 or longitud$6 or parallel) with (permeability or permeabl$3)) same ((horizontal$2 or transvers$4 or orthogonal$2 or perpendicular$2) with (vertical$2 or longitud$6 or parallel) with (resistiv$5)) same (ratio))	3

☐	L110	L103 and (((horizontal$2 or transvers$4 or orthogonal$2 or perpendicular$2) with (vertical$2 or longitud$6 or parallel) with (permeability or permeabl$3)) same ((horizontal$2 or transvers$4 or orthogonal$2 or perpendicular$2) with (vertical$2 or longitud$6 or parallel) with (resistiv$5)) same (ratio))	3
☐	L109	L108 and ((anisotropy or anisotropic$4) with (ratio))	3
☐	L108	L107 and (((horizontal$2 or transvers$4 or parallel) with (vertical$2 or longitud$6 or orthogonal$2 or perpendicular$2) with (permeability or permeabl$3)) same ((horizontal$2 or transvers$4 or parallel) with (vertical$2 or longitud$6 or orthogonal$2 or perpendicular$2) with (resistiv$5)) same (ratio))	4
☐	L107	L106 and ((horizontal$2 or transvers$4 or parallel) with (vertical$2 or longitud$6 or orthogonal$2 or perpendicular$2) with (permeability or permeabl$3))	6
☐	L106	L103 and ((horizontal$2 or transvers$4 or parallel) with (vertical$2 or longitud$6 or orthogonal$2 or perpendicular$2) with (resistiv$5))	8
☐	L105	L103 not L100	1
☐	L104	L103 and ((anisotropy or anisotropic$4) with (ratio))	4
☐	L103	L102 and ((determin$4 or calculat$4 or measur$4) with (((horizontal$2 or vertical$2 or transvers$4 or longitud$6 or parallel or orthogonal$2 or perpendicular$2) with (permeability or permeabl$3)) same ((horizontal$2 or vertical$2 or transvers$4 or longitud$6 or parallel or orthogonal$2 or perpendicular$2) with (resistiv$5))))	15
☐	L102	((324/303 |324/304 |324/305 |324/306 |324/307 |324/308 |324/309 |324/310 |324/311 |324/312 |324/313 |324/314 |324/315 |324/316 |324/317 |324/318 |324/319 |324/320 |324/321 |324/322 |324/323 |324/324 |324/325 |324/326 |324/327 |324/328 |324/329 |324/330 |324/331 |324/332 |324/333 |324/334 |324/335 |324/336 |324/337 |324/338 |324/339 |324/340 |324/341 |324/342 |324/343 |324/344 |324/345 |324/346 |324/347 |324/348 |324/349 |324/350 |324/351 |324/352 |324/353 |324/354 |324/355 |324/356 |324/357 |324/358 |324/359 |324/360 |324/361 |324/362 |324/363 |324/364 |324/365 |324/366 |324/367 |324/368 |324/369 |324/370 |324/371 |324/372 |324/373 |324/374 |324/375 |324/376 |324/377).ccls.)	14287
☐	L101	L100 and ((anisotropy or anisotropic$4) with (ratio))	4
☐	L100	L99 and ((determin$4 or calculat$4 or measur$4) with (((horizontal$2 or vertical$2 or transvers$4 or longitud$6 or parallel or orthogonal$2 or perpendicular$2) with (permeability or permeabl$3)) same ((horizontal$2 or vertical$2 or transvers$4 or longitud$6 or parallel or orthogonal$2 or perpendicular$2) with (resistiv$5))))	14
☐	L99	((324/303 |324/304 |324/305 |324/306 |324/307 |324/308 |324/309 |324/310 |324/311 |324/312 |324/313 |324/314 |324/315 |324/316 |324/317 |324/318 |324/319 |324/320 |324/321 |324/322 |324/323 |324/324 |324/325 |324/326 |324/327 |324/328 |324/329 |324/330 |324/331 |324/332 |324/333 |324/334 |324/335 |324/336 |324/337 |324/338 |324/339 |324/340 |324/341 |324/342 |324/343 |324/344 |324/345 |324/346 |324/347 |324/348 |324/349 |324/350 |324/351 |324/352 |324/353 |324/354 |324/355 |324/356 |324/357 |324/358 |324/359 |324/360 |324/361 |324/362 |324/363 |324/364 |324/365 |324/366 |324/367).ccls.)	13844
☐	L98	L97 and ((anisotropy or anisotropic$4) with (ratio))	4

☐	L97	L96 and ((determin$4 or calculat$4 or measur$4) with (((horizontal$2 or vertical$2 or transvers$4 or longitud$6 or parallel or orthogonal$2 or perpendicular$2) with (permeability or permeabl$3)) same ((horizontal$2 or vertical$2 or transvers$4 or longitud$6 or parallel or orthogonal$2 or perpendicular$2) with (resistiv$5))))	16
☐	L96	L91 and (determin$4 or calculat$4 or measur$4)	30
☐	L95	L92 and ((anisotropy or anisotropic$4) with (ratio))	4
☐	L94	L92 and (anisotropy or anisotropic$4)	10
☐	L93	L92 and ((resistiv$5) with (ratio) with (permeability or permeabl$3))	2
☐	L92	L91 and ((log$4) with (formation or wellbore or "well bore" or well-bore or borehole or bore-hole or "bore hole" or earth or petrophysical$3 or petro-physical$3 or "petro physical$3" or sand or clay or shale or grain))	25
☐	L91	L87 and (((horizontal$2 or vertical$2 or transvers$4 or longitud$6 or parallel or orthogonal$2 or perpendicular$2) with (permeability or permeabl$3)) same ((horizontal$2 or vertical$2 or transvers$4 or longitud$6 or parallel or orthogonal$2 or perpendicular$2) with (resistiv$5)))	30
☐	L90	L89 and ((resistiv$5) with (permeability or permeabl$3) with (ratio))	2
☐	L89	L87 and ((horizontal$2 or vertical$2 or transvers$4 or longitud$6 or parallel or orthogonal$2 or perpendicular$2) with (ratio))	22
☐	L88	L86 and ((horizontal$2 or vertical$2 or transvers$4 or longitud$6 or parallel or orthogonal$2 or perpendicular$2) with (ratio))	86
☐	L87	L86 and ((horizontal$2 or vertical$2 or transvers$4 or longitud$6 or parallel or orthogonal$2 or perpendicular$2) with (permeability or permeabl$3))	75
☐	L86	L84 and ((horizontal$2 or vertical$2 or transvers$4 or longitud$6 or parallel or orthogonal$2 or perpendicular$2) with (resistiv$5))	412
☐	L85	L78 and ((horizontal$2 or vertical$2 or transvers$4 or longitud$6 or parallel or orthogonal$2 or perpendicular$2) with (resistiv$5))	1857
☐	L84	L83 and (permeability or permeabl$3)	2878
☐	L83	L82 and (resistiv$5)	16608
☐	L82	L78 and (horizontal$2 or vertical$2 or transvers$4 or longitud$6 or parallel or orthogonal$2 or perpendicular$2)	121333
☐	L81	L80 and (permeability or permeabl$3)	2878
☐	L80	L79 and (resistiv$5)	16608
☐	L79	L78 and (horizontal$3 or vertical$3 or transvers$5 or longitud$7 or parallel or orthogonal$3 or perpendicular$3)	121368
☐	L78	L77 and (log$4)	191116
☐	L77	(formation or wellbore or "well bore" or well-bore or borehole or bore-hole or "bore hole" or earth or petrophysical$3 or petro-physical$3 or "petro physical$3" or sand or clay or shale or grain)	3137478
☐	L76	L75 and ((horizontal$3 or vertical$3 or transvers$5 or longitud$4 or parallel or perpendicular$2 or longitudinal$2) with (resistiv$5) with (permeability or permeabl$3) with (ratio))	4
☐	L75	L74 and (ratio)	41
		L53 and (((horizontal$3 or vertical$3 or transvers$5 or longitud$4 or parallel or	

☐	L74	perpendicular$2 or longitudinal$2) with (resistiv$5)) same ((horizontal$3 or vertical$3 or transvers$5 or longitud$4 or parallel or perpendicular$2 or longitudinal$2) with (permeability or permeabl$3)))	69
☐	L73	L72 and ((horizontal$3 or vertical$3 or transvers$5 or longitud$4 or parallel or perpendicular$2 or longitudinal$2) adj4 (resist$5) with (ratio))	1
☐	L72	L71 and ((horizontal$3 or vertical$3 or transvers$5 or longitud$4 or parallel or perpendicular$2 or longitudinal$2) adj4 (permeability or permeabl$3) with (ratio))	2
☐	L71	5463549	15
☐	L70	L57 and ((horizontal$3 or vertical$3 or transvers$5 or longitud$4 or parallel or perpendicular$2 or longitudinal$2) adj4 (permeability or permeabl$3) with (ratio))	4
☐	L69	L68 and (laminat$4)	0
☐	L68	L67 and (estima$6 or approximat$6)	1
☐	L67	L66 and (coarse or fine or water or "h2O" or "h.sub.2O")	1
☐	L66	L63 and (Waxman or Smits or Thomas or Stieber)	1
☐	L65	L63 and (bulk or content)	0
☐	L64	L63 and ((magnetic adj resonance) or MRI or NMR)	0
☐	L63	L53 and (((horizontal$3 or vertical$3 or transvers$5 or longitud$4 or parallel or perpendicular$2 or longitudinal$2) adj3 (permeability or permeabl$3)) with ((horizontal$3 or vertical$3 or transvers$5 or longitud$4 or parallel or perpendicular$2 or longitudinal$2) adj3 (resistiv$5)))	1
☐	L62	L55 and (((horizontal$3 or vertical$3 or transvers$5 or longitud$4 or parallel or perpendicular$2 or longitudinal$2) adj3 (permeability or permeabl$3)) with ((horizontal$3 or vertical$3 or transvers$5 or longitud$4 or parallel or perpendicular$2 or longitudinal$2) adj3 (resistiv$5)))	1
☐	L61	L59 and (((horizontal$3 or vertical$3 or transvers$5 or longitud$4 or parallel or perpendicular$2 or longitudinal$2) adj3 (permeability or permeabl$3)) with ((horizontal$3 or vertical$3 or transvers$5 or longitud$4 or parallel or perpendicular$2 or longitudinal$2) adj3 (resistiv$5)))	1
☐	L60	L59 and (((horizontal$3 or vertical$3 or transvers$5 or longitud$4 or parallel or perpendicular$2 or longitudinal$2) adj2 (permeability or permeabl$3)) with ((horizontal$3 or vertical$3 or transvers$5 or longitud$4 or parallel or perpendicular$2 or longitudinal$2) adj (resistiv$5)))	0
☐	L59	L58 and ((horizontal$3 or vertical$3 or transvers$5 or longitud$4 or parallel or perpendicular$2 or longitudinal$2) with (permeability or permeabl$3) with (formation or wellbore or "well bore" or well-bore or borehole or bore-hole or "bore hole" or earth or petrophysical$3 or petro-physical$3 or "petro physical$3" or sand or clay or shale or grain))	5
☐	L58	L57 and (logging)	5
☐	L57	L55 and ((horizontal$3 or vertical$3 or transvers$5 or longitud$4 or parallel or perpendicular$2 or longitudinal$2) with (permeability or permeabl$3) with (ratio))	8
☐	L56	L55 and ((horizontal$3 or vertical$3 or transvers$5 or longitud$4 or parallel or perpendicular$2 or longitudinal$2) with (resistiv$5) with (permeability or permeabl$3) with (ratio))	4

☐	L55	L54 and (ratio)	36
☐	L54	L53 and ((horizontal$3 or vertical$3 or transvers$5 or longitud$4 or parallel or perpendicular$2 or longitudinal$2) with (resistiv$5) with (permeability or permeabl$3))	61
☐	L53	L52 and ((horizontal$3 or vertical$3 or transvers$5 or longitud$4 or parallel or perpendicular$2 or longitudinal$2) with (resistiv$5))	957
☐	L52	L51 and (resistiv$5)	9014
☐	L51	L50 and (permeability or permeabl$3)	80606
☐	L50	L49 and (formation or wellbore or "well bore" or well-bore or borehole or bore-hole or "bore hole" or earth or petrophysical$3 or petro-physical$3 or "petro physical$3" or sand or clay or shale or grain)	1236599
☐	L49	(horizontal$3 or vertical$3 or transvers$5 or longitud$7 or parallel or orthogonal$3 or perpendicular$3)	7657216
☐	L48	L1 and (formation or wellbore or "well bore" or well-bore or borehole or bore-hole or "bore hole" or earth or petrophysical$3 or petro-physical$3 or "petro physical$3" or sand or clay or shale or grain)	706414
☐	L47	L13 and (permeability or permeabl$3)	6
☐	L46	5656930 and (permeability or permeabl$3)	16
☐	L45	US20040140801A1	1
☐	L44	L43 and (permeability or permeabl$3)	5
☐	L43	3479581	11
☐	L42	L37 and ((horizontal$3 or vertical$3 or transvers$5 or longitud$4 or parallel or perpendicular$2 or longitudinal$2) with (resistiv$5) with (permeability or permeabl$3) with (ratio))	5
☐	L41	L40 and ((horizontal$3 or vertical$3 or transvers$5 or longitud$4 or parallel or perpendicular$2 or longitudinal$2) with (resistiv$5) with (permeability or permeabl$3) with (ratio))	4
☐	L40	L39 and ((horizontal$3 or vertical$3 or transvers$5 or longitud$4 or parallel or perpendicular$2 or longitudinal$2) with (resistiv$5) with (permeability or permeabl$3))	36
☐	L39	L38 and (ratio)	129
☐	L38	L37 and (formation or wellbore or "well bore" or well-bore or borehole or bore-hole or "bore hole" or earth or petrophysical$3 or petro-physical$3 or "petro physical$3" or sand or clay or shale or grain)	204
☐	L37	L36 and ((horizontal$3 or vertical$3 or transvers$5 or longitud$4 or parallel or perpendicular$2 or longitudinal$2) with (resistiv$5))	369
☐	L36	L35 and ((horizontal$3 or vertical$3 or transvers$5 or longitud$4 or parallel or perpendicular$2 or longitudinal$2) with (permeability or permeabl$3))	1760
☐	L35	L34 and (permeability or permeabl$3)	14755
☐	L34	L33 and (resistiv$5)	172809
☐	L33	(horizontal$3 or vertical$3 or transvers$5 or longitud$4 or parallel or perpendicular$2 or longitudinal$2)	7542602
☐	L32	(horizontal$3 or vertical$3 or transvers$5 or longitud$7 or parallel or perpendicular$2)	7546527

DB=PGPB,USPT,EPAB,JPAB,DWPI,TDBD; PLUR=YES; OP=ADJ

☐	L31	20020101235	2

DB=USPT,PGPB,JPAB,EPAB,DWPI,TDBD; PLUR=YES; OP=ADJ

☐	L30	6005389 and ((horizontal$3 or vertical$3 or transvers$5 or longitud$7 or parallel or orthogonal$3 or perpendicular$3) with (resistiv$5))	4
☐	L29	L28 not L26	3
☐	L28	L27 and (Waxman or Smits or Thomas or Stieber)	13
☐	L27	L22 and ((magnetic adj resonance) or MRI or NMR)	68
☐	L26	L25 and ((magnetic adj resonance) or MRI or NMR)	10
☐	L25	L24 and (coarse or fine)	22
☐	L24	L23 and (Waxman or Smits or Thomas or Stieber)	33
☐	L23	L22 and (bulk or content)	248
☐	L22	L21 and (estima$6 or approximat$6)	361
☐	L21	L20 and (induct$5)	396
☐	L20	L19 and (model$4 or simulat$6)	854
☐	L19	L18 and (density or porosity or permeability or bvi or irreducible or bound)	2061
☐	L18	L17 and (formation or wellbore or "well bore" or well-bore or borehole or bore-hole or "bore hole" or earth or petrophysical$3 or petro-physical$3 or "petro physical$3" or sand or clay or shale or grain)	3269
☐	L17	L16 and (water or fluid$4 or liquid$4 or "h20" or oil)	6129
☐	L16	((horizontal$3 or vertical$3 or transvers$5 or longitud$7 or parallel or orthogonal$3 or perpendicular$3) with (resistiv$5))	18332
☐	L15	L14 and ((horizontal$3 or vertical$3 or transvers$5 or longitud$7) with (resistiv$5))	4
☐	L14	6255819	18
☐	L13	L12 and ((magnetic adj resonance) or MRI or NMR)	10
☐	L12	L11 and ((horizontal$3 or vertical$3 or transvers$5 or longitud$7) with (resistiv$5))	12
☐	L11	L10 and (bulk or content)	201
☐	L10	L9 and (Waxman or Smits or Thomas or Stieber)	213
☐	L9	L8 and (model$4 or simulat$6)	1507
☐	L8	L7 and (coarse or fine)	2450
☐	L7	L6 and (density or porosity or permeability or bvi or irreducible or bound)	5446
☐	L6	L5 and (estima$6 or approximat$6)	6488
☐	L5	L4 and (induct$5)	8396
☐	L4	L3 and (formation or wellbore or "well bore" or well-bore or borehole or bore-hole or "bore hole" or earth or petrophysical$3 or petro-physical$3 or "petro physical$3" or sand or clay or shale or grain)	31843
☐	L3	L2 and (water or fluid$4 or liquid$4 or "h20" or oil)	53313
☐	L2	L1 and (resistiv$5)	98763

☐	L1	(horizontal$3 or vertical$3 or transvers$5 or longitud$7)	4326745

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Search Results - Record(s) 1 through 3 of 3 returned.

☐ 1. Document ID: US 20040140801 A1

L115: Entry 1 of 3 File: PGPB Jul 22, 2004

PGPUB-DOCUMENT-NUMBER: 20040140801
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20040140801 A1

TITLE: Combined characterization and inversion of reservoir parameters from nuclear, NMR and resistivity measurements

PUBLICATION-DATE: July 22, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY
Schoen, Juergen S.	Leoben	TX	AT
Fanini, Otto N.	Houston	TX	US
Georgi, Daniel	Houston		US

US-CL-CURRENT: 324/303

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw. De

☐ 2. Document ID: US 20020101235 A1

L115: Entry 2 of 3 File: PGPB Aug 1, 2002

PGPUB-DOCUMENT-NUMBER: 20020101235
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20020101235 A1

TITLE: Combined characterization and inversion of reservoir parameters from nuclear, NMR and resistivity measurements

PUBLICATION-DATE: August 1, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY
Schoen, Juergen S.	Leoben	TX	AT
Fanini, Otto N.	Houston	TX	US
Georgi, Daniel	Houston		US

US-CL-CURRENT: 324/303

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw. D

☐ 3. Document ID: US 6686736 B2

L115: Entry 3 of 3 File: USPT Feb 3, 2004

US-PAT-NO: 6686736
DOCUMENT-IDENTIFIER: US 6686736 B2

TITLE: Combined characterization and inversion of reservoir parameters from nuclear, NMR and resistivity measurements

DATE-ISSUED: February 3, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Schoen; Juergen S.	Leoben			AT
Fanini; Otto N.	Houston	TX		
Georgi; Daniel	Houston	TX		

US-CL-CURRENT: 324/303

Full | Title | Citation | Front | Review | Classification | Date | Reference | | | Claims | KWIC | Draw. D

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Term	Documents
(114 AND 78).PGPB,USPT,USOC,EPAB,JPAB,DWPI,TDBD.	3
(L114 AND L78).PGPB,USPT,USOC,EPAB,JPAB,DWPI,TDBD.	3

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Search Results - Record(s) 1 through 1 of 1 returned.

☐ 1. Document ID: US 3445851 A

L116: Entry 1 of 1 File: USOC May 20, 1969

US-PAT-NO: 3445851
DOCUMENT-IDENTIFIER: US 3445851 A

TITLE: POLARIZATION INSENSITIVE MICROWAVE ENERGY PHASE SHIFTER

DATE-ISSUED: May 20, 1969

INVENTOR-NAME: SHELDON EDWARD J

US-CL-CURRENT: 343/754; 333/158, 333/24.1, 342/371, 343/756

Full | Title | Citation | Front | Review | Classification | Date | Reference | | | Claims | KWIC | Draw D

Clear | Generate Collection | Print | Fwd Refs | Bkwd Refs | Generate OACS

Term	Documents
PARALLEL	3379142
PARALLELS	18267
PERMEABILITY	223358
PERMEABILITIES	8924
PERMEABILITYS	4
INVERSE	223022
INVERSES	3327
INVERSION	143737
INVERSIONS	11024
HORIZONTAL$2	0
HORIZONTAL	2107341
((((HORIZONTAL$2 OR TRANSVERS$4 OR ORTHOGONAL$2 OR PERPENDICULAR$2) WITH (VERTICAL$2 OR LONGITUD$6 OR PARALLEL) WITH (PERMEABILITY OR PERMEABL$3)) SAME ((HORIZONTAL$2 OR TRANSVERS$4 OR ORTHOGONAL$2 OR PERPENDICULAR$2) WITH (VERTICAL$2 OR LONGITUD$6 OR	1

PARALLEL) WITH ((INVERSE OR INVERT$4 OR INVERSION) WITH (CONDUCTIV$5))))).PGPB,USPT,USOC,EPAB,JPAB,DWPI,TDBD.	

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L116: Entry 1 of 1 File: USOC May 20, 1969

DOCUMENT-IDENTIFIER: US 3445851 A
TITLE: POLARIZATION INSENSITIVE MICROWAVE ENERGY PHASE SHIFTER

OCR Scanned Text (6):
7 wave energy whereupon a second value of phase shift is introduced u-pon traversal through the ferromagnetic means; the reflected energy having a total electrical phase shift of the difference between the first and second values and having the same sense of polarization orientation as the received energy. 2. A reentrant polarization insensitive electromagnetic wave energy phase shifter comprising: section of circular waveguide adapted to receive and propa-ate circularly polarizcd energy; ferrite element supported along the longitudinal axis of said waveguide; magnetic field producing means encirclin-g said waveguide adjacent to said ferrite element to provide a predetermined phase shift in the circularly polarized energy passing through said element in opposing directions; said waveguide being closed at one end to short circuit and reflect in a reverse direction substantially all energy incident thereon; a polarization inverter including a one-quarter wavelength long conductive vane member diametrically disposed within such waveguide intermediate to the closed end and said ferrite element to produce a phase difference of 180' in the orthogonal distribution of the field vectors compositely defining said reflected circularly polarized waves whereupon a second value of phase shift is introduced upon traversal through the ferrite element; the reflected output energy having a net electrical phase shift equal to the difference between the first and second values and having the same sense of polarization of the input circularly polarized wave energy. 3. A reentrant polarization insensitive electromagnetic wave energy phase shifter according to claim 2 wherein said polarization inverter comprises a body of an anisotropic dielectric material one-quarter of a wavelength of said energy in length. 4. A device for providing a variable electrical phase shift of electrimagnetic wave energy com@prising: waveguide means for receiving and launching at one end said wave energy; a ferrite element disposed along the longitudinal axis of said waveguide; magnetic field producing means including an electric field coil concentrically wound around said waveguide in the region'of said ferrite element and a source of unidirectional current connected thereto to thereby alter the energy permeability of the ferrite element; short eircuiting means disposed at the opposing end of said waveguide to reflect substantially all energy incident thereon; a fixed circular polarizing structure disposed interme- 31445,851 8 diate to said short circuiting means and said ferrite element to introduce a 180' phase difference in the orthogonal distribution of the electric field vectors of said energy between the point of exit after the first traversal through said ferrite element and the point of entry after deflection to traverse the ferrite element in the reverse direction. S. A device according to claim 4 wherein said wave- guide section is circular. 10 6. A device accordin.- to claim 4 wherein said circular polarizing structure comprises a dianietrically disposed vane member one-quarter of a wavelength of said energy in length. 7. A devlice accordin,- to claim 4 wherein said circular 15 polarizing structure comprises an anisotropic dielectric material of predetermined length. 8. In a reflector type optically fed antenna system com- prising: means for generating and transmitting in free space elec- 20 tromagnetic wave energy; means for collimating and directing said transmitted ener,-y iri a desired direction

includin.- an array of reentrant variable electrical elements; each of said elements comprising a section of wave- guide; a radiating element enclosing one end of said waveguide to receive and launch said energy; ferromagnetic means to produce a predetermined electrical phase shift in energy traversing said wave- guide in opposing directions, the value of phase shift being different for each direction to yield a net phase shift represented by the- difference in said values; waveguide shorting means enclosing the opposing end of said waveguide to reverse the direction of travel of said energy through said element; selective reflector means disposed between said shorting and ferromagnetic means to introduce a 180' phase differential in one orthogonal electric vector of said energy relative to the allied mutually perpendicular vector and thereby invert the orientation of said vectors of said energy traversing the s-pace defined between said shorting means and the adjacent end of said ferromagnetic means. References Cited UNITED STATES PATENTS 2,760,166 8/1956 Fox -------------- 333-24.1 3,166,724 1/1965 Allen -------------- 333-24.1 ELI LIEBERMAN, Primary Examiner. U.S. Cl. X.R. 333-24.1, 31; 343-756, 854

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Search Results - Record(s) 1 through 7 of 7 returned.

☐ 1. Document ID: US 20040140801 A1

L118: Entry 1 of 7 File: PGPB Jul 22, 2004

PGPUB-DOCUMENT-NUMBER: 20040140801
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20040140801 A1

Applicant's own Work N/A

TITLE: Combined characterization and inversion of reservoir parameters from nuclear, NMR and resistivity measurements

PUBLICATION-DATE: July 22, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY
Schoen, Juergen S.	Leoben	TX	AT
Fanini, Otto N.	Houston	TX	US
Georgi, Daniel	Houston		US

US-CL-CURRENT: 324/303

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw D

☐ 2. Document ID: US 20020101235 A1

L118: Entry 2 of 7 File: PGPB Aug 1, 2002

PGPUB-DOCUMENT-NUMBER: 20020101235
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20020101235 A1

Applicant's own Work N/A

TITLE: Combined characterization and inversion of reservoir parameters from nuclear, NMR and resistivity measurements

PUBLICATION-DATE: August 1, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY
Schoen, Juergen S.	Leoben	TX	AT
Fanini, Otto N.	Houston	TX	US
Georgi, Daniel	Houston		US

US-CL-CURRENT: 324/303

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw D

☐ 3. Document ID: US 6686736 B2

L118: Entry 3 of 7 File: USPT Feb 3, 2004

US-PAT-NO: 6686736
DOCUMENT-IDENTIFIER: US 6686736 B2

TITLE: Combined characterization and inversion of reservoir parameters from nuclear, NMR and resistivity measurements

Applicant's an LLC N/A

DATE-ISSUED: February 3, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Schoen; Juergen S.	Leoben			AT
Fanini; Otto N.	Houston	TX		
Georgi; Daniel	Houston	TX		

US-CL-CURRENT: 324/303

Full | Title | Citation | Front | Review | Classification | Date | Reference | Claims | KWIC | Draw D

☐ 4. Document ID: US 6603313 B1

L118: Entry 4 of 7 File: USPT Aug 5, 2003

US-PAT-NO: 6603313
DOCUMENT-IDENTIFIER: US 6603313 B1

TITLE: Remote reservoir resistivity mapping

DATE-ISSUED: August 5, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Srnka; Leonard J.	Houston	TX		

US-CL-CURRENT: 324/354; 324/359, 702/5

Full | Title | Citation | Front | Review | Classification | Date | Reference | Claims | KWIC | Draw D

☐ 5. Document ID: US 6344746 B1

L118: Entry 5 of 7 File: USPT Feb 5, 2002

US-PAT-NO: 6344746
DOCUMENT-IDENTIFIER: US 6344746 B1

TITLE: Method for processing the lapse measurements

DATE-ISSUED: February 5, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Chunduru; Raghu K.	Houston	TX		
Mezzatesta; Alberto G.	Houston	TX		
Busch; Rainer	Missouri City	TX		

US-CL-CURRENT: 324/339; 324/335, 324/338, 702/7

Full | Title | Citation | Front | Review | Classification | Date | Reference | | | Claims | KWIC | Draw D

☐ 6. Document ID: US 4924187 A

L118: Entry 6 of 7 File: USPT May 8, 1990

US-PAT-NO: 4924187
DOCUMENT-IDENTIFIER: US 4924187 A

TITLE: Method for measuring electrical anisotrophy of a core sample from a subterranean formation

DATE-ISSUED: May 8, 1990

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Sprunt; Eve S.	Farmers Branch	TX		
Davis; R. Michael	Bedford	TX		
Kennedy; W. David	Dallas	TX		
Collins; Samuel H.	De Soto	TX		

US-CL-CURRENT: 324/376

Full | Title | Citation | Front | Review | Classification | Date | Reference | | | Claims | KWIC | Draw D

☐ 7. Document ID: US 2852734 A

L118: Entry 7 of 7 File: USOC Sep 16, 1958

US-PAT-NO: 2852734
DOCUMENT-IDENTIFIER: US 2852734 A

TITLE: Groundwater direction determination

DATE-ISSUED: September 16, 1958

INVENTOR-NAME: JOSENDAL VIRGIL A; STEGEMEIER RICHARD J

US-CL-CURRENT: 324/325, 166/250.01, 324/347

Full | Title | Citation | Front | Review | Classification | Date | Reference | | | Claims | KWIC | Draw D

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Term	Documents
PARALLEL	3379142
PARALLELS	18267
PERMEABILITY	223358
PERMEABILITIES	8924
PERMEABILITYS	4
HORIZONTAL$2	0
HORIZONTAL	2107341
HORIZONTALA	32
HORIZONTALAD	1
HORIZONTALAI	2
HORIZONTALAL	8
(L117 AND (((HORIZONTAL$2 OR TRANSVERS$4 OR ORTHOGONAL$2 OR PERPENDICULAR$2) WITH (VERTICAL$2 OR LONGITUD$6 OR PARALLEL) WITH (PERMEABILITY OR PERMEABL$3)) SAME ((HORIZONTAL$2 OR TRANSVERS$4 OR ORTHOGONAL$2 OR PERPENDICULAR$2) WITH (VERTICAL$2 OR LONGITUD$6 OR PARALLEL) WITH (RESISTIV$5)))).PGPB,USPT,USOC,EPAB,JPAB,DWPI,TDBD.	7

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L118: Entry 4 of 7 File: USPT Aug 5, 2003

DOCUMENT-IDENTIFIER: US 6603313 B1
TITLE: Remote reservoir resistivity mapping

Brief Summary Text (6):
Most hydrocarbon reservoirs are inter-bedded with shale stringers or other non-permeable intervals and hence are electrically anisotropic at the macroscopic scale. Thus, it is important to measure both the vertical (transverse) and horizontal (longitudinal) electrical resistivities of the reservoir interval. Remote measurement of the vertical and horizontal resistivities of the reservoir interval, combined with estimation of the resistivity of the non-permeable bedding, would provide quantitative bounds on the reservoir's fluid content, such as the hydrocarbon pore volume. However, there is no existing technology for remotely measuring reservoir formation resistivity from the land surface or the seafloor at the vertical resolution required in hydrocarbon exploration and production. Based on the thicknesses of known reservoirs and predicted future needs, this required resolution would be equal to or less than two percent of depth from the earth's surface or seafloor. For example, this would resolve a 200-ft net reservoir thickness (vertical sum of hydrocarbon bearing rock thicknesses within the reservoir interval) or less at a typical 10,000-ft reservoir depth.

Current US Original Classification (1):
324/354

Current US Cross Reference Classification (1):
324/359

L118: Entry 5 of 7 File: USPT Feb 5, 2002

DOCUMENT-IDENTIFIER: US 6344746 B1
TITLE: Method for processing the lapse measurements

Current US Original Classification (1):
324/339

Current US Cross Reference Classification (1):
324/335

Current US Cross Reference Classification (2):
324/338

CLAIMS:

2. The method of claim 1 wherein the property of interest is at least one of (i) a thickness of an invaded zone in a formation, (ii) a depth of an invaded zone in a formation, (iii) a resistivity of an invaded zone in a formation, (iv) a horizontal resistivity of an invaded zone in a formation, (v) a vertical resistivity of an invaded zone in a formation, (vi) a resistivity of an uninvaded zone in a formation, (vii) a horizontal resistivity of a formation, (viii) a vertical resistivity of a formation, (ix) an inclination angle of an axis of the borehole to a bedding plane of a formation, (x) a permeability of a formation, (xi) a density of a formation, and (xii) a porosity of a formation.

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L118: Entry 6 of 7 File: USPT May 8, 1990

DOCUMENT-IDENTIFIER: US 4924187 A
TITLE: Method for measuring electrical anisotrophy of a core sample from a subterranean formation

Detailed Description Text (6):
More particularly, it has been found that the logarithmic plots of resistivity versus saturation for measurements obtained parallel and perpendicular to any contrasting layers within the core sample such as permeability barriers, diverge for decreasing conducting fluid saturations (see FIG. 4), such permeability barriers are formed by composite layering of materials within the core sample, hereinafter termed "laminations". The Archie saturation exponent measured across any such laminations will be significantly different than such saturation exponent measured parallel to the laminations. Consequently, by measuring resistivity in a plurality of azimuthal directions through a core sample, any electrical anisotropy will be identified.

Current US Original Classification (1):
324/376

Previous Doc Next Doc Go to Doc#

L118: Entry 7 of 7 File: USOC Sep 16, 1958

DOCUMENT-IDENTIFIER: US 2852734 A
TITLE: Groundwater direction determination

OCR Scanned Text (3):
3 the anticline along a line extending in the same direction as the groundwater flow from the first well in which the groundwater flow direction was determined. The method and apparatus of the present invention will be more readily understood by reference to the accompanyin.- drawings in which: Fi-ure I is a vertical cross section view in schematic firm of an archin.- geological striicture known as an anticline and in which the groundwater flow has shifted an oil and gas deposit, Fi-ure 2 is an isometric detail view of the apparatus of this invention located at the intersection of a wellbore and an under.-round permeable stratum, Figure 3 is a transverse detailed cross section view of a portion of the lance carrying the electrodes by means of which changes in conductivity and resistivity may be detected, Fi.-Ure 4 is an electrical dia.-ram of a suitable brid@-c circuit and switching arrangement for determining conductivity or resistivity changes between the various electrodes during groundwater intrusion, Figures 5A and 5B indicate schematically the initial displacement of the special fluid by the groundwater flow and the relative conductivity determined according to the method of this invention, and Fi.-ures 6A and 6B indicate the same information as Figtires 5A and 5B but at a later time and after further ,-round@vater intrusion. Referring now more particularly to Figure 1, an arching structure 10 of permeable rock is penetrated by well bore 12. This arching structure is known as an anticline and is overlain by one or more layers of fluid-impermeable rock 14 and underlain by other nonfluid-containing layers 16. The specific gravity of petroleum gas and oil is nearly always less than that of the brine which constitutes the groundwater frequently associated with it. Accordingly these hydrocarbon materials niigrate upwardly and tend to collect in antielinal traps such as that shown in this figure. Because of the fluid- impermeable strattim 14 the accumulation of petroleum ordinarily exists abovc broken line 18. In the absence of grotindwater flow this line 18 constituting the lower extremity of the petroleum deposit will be substantially level or horizontal. When however the groundwater flows in the direction indicated by arrows 20, the hydrodynamic effect of such flow is to displace the petroleum deposit to the right in Perm.-able stratum 10 so that it occupies the position indicated between line 22 and the lower surface of impermeable stratum 14, T'here are many geophysical methods for locating the ,ipproximate position of an anticlinal structure. Once the approximate location is- deterinined the site for drilung wellbore 12 is readily picked. If the petroleum deposit were undisplaced, then wellbore 12 would be expected to produce commercial quantities of petroleum. However, with the deposit displaced into a position embraced in bracket 24, wellbore 12 drilled at approximately the crest of the antieline will show little more than traces of oil and -as. The present invention is directed to the use of wellbore 12 to determine the direction of groundwater flow and the most likely direction of displacement of the gas and oil so that a logical direction for drileng further wells may be picked with the first well as a reference point. Referrin- now more particularly to Figure 2, borehole 12 is shown extending downwardly through superjacent impermeable strata 14, permeable strata 10, and subjacent impermeable strata 16 as indicated previously in Fi.-tire 1. Well tubing

30 extends downwardly through the borehole 12 and is provided with tubing centralizer 32 and packer 34. Packer 34 is provided immediately above lance 38 and serves to isolate the test zone from the rest of the borehole. By means of collar 36 electrode lance 38, provided with a plurality of peripheral elec- 2,862,734 4 trodes 40, is connected at the lower extremity of tubing string 30. Lance 38 is provided at its lower end with a conical point 42 by means of which the lance and its peripheral electrodes may be forced downnvardly into sand pack 44. Electrodes 40 are provided throughout their entire length with lateral perforations 41 to permit flow therethrou.-h of the indi,-Cnous fluids. Sand pack 44 is placed in the borehole opposite per- meable stratum 10 by any of the conventionally practiced sand pack placement methods. The pack may be placed in the borehole either before or after placement of the lance therein. Either before placement of the sand pack or after placement thereof, an in.-redient is- incorporated in the granular solids to impart a significantly different conductivity or resistivity to fluids either present ori@-inally therein or added with the ingredient or formed after intrusion of the initial groundwater flow. The conductivity or resistivity should be significantly di'fferent, either higher or lower, ftom that of the usual - groundwater or brine. This may be accomplished using hi,-her conductivities by dispersin.- in a dry or substantially dry sand pack finely divided particles of water soluble ionizable solid salts such as sodium chloride fo ample, or rnoistening of tle--sa-nd-@@fU-re-ifa@ement with a sol'Cti@n of -wa- teT---'-@-drub,Fe-'s-@ofid's---s'u@ch a-s sodium chloride, or an@ other. riaeans. Conductivity water may be emplo@e-d -in-ste-'a'd, wh'ereby 'Lhe conductivity measured in the test rises from a very low value to the normal value. An alcohol--4niscible-with-vater may also be used to effect a large variation on the conductivity. Preferably the ingredierit @dded is either soluble in or miscible with the indigenous fluid to be detected and does not cause precipitationorotherphasechanges. Any materialwhich changes the conductivity from that of the indigenous fluid may be used. After disposition of the lance and the electrodes and the sand pack surrounding the electrodes within the wellbore, a plurality of initial conductivity or resistivity meas- urements are made between selected pairs of electrodes around the lance periphery. This serves to indicate the original conductivity of the matrix which fills the space between the adjacent electrodes and to which subsequent changes may be related or compared. This determination is preferably conducted remotely at the surface of the earth, by means of an instrument subsequently described, and to which each of the electrodes are connected by means of a plural conductor cable 46 which extends upwardly to the surface through tubing string 30. Referring now more particularly to Figure 3, an en- larged detailed drawing of a portion of a transverse cross section of lance 38 is shown. The lance preferably is con- structed in tubular form of mechanically strong elec- trically insulating material such as laminated glass fiber and resin materials or the like and in which a plurality of longitudinal parallel spaced slots are milled or otherwise cut on the "terior surface. Into each of these slots is secured an elongated electrode 40 by means of fasteners 48. These fasteners also constitute the electrical con- nection between the electrode and one of the individual conductors 50 contained within cable 46. By means of these conductors and this cable the individual electrodes communicate with a conductivity or resistivity detecting device located at the surface, For this purpose, an al- ternating current Wheatstone bridge is suitable. Referring now more particularly to Figure 4, a schematic diagram of an alternating current Wheatstone bridge is shown. This consists of a bridge circuit including serially connected resistances RI and R2 which are preferably equal in electrical resistance, and a variable resistance R3 and the unknown resistor R,,, which latter is the unknown resistance between any adjacent pair of @electrodes. Element 52 indicates a visual or audio or other type of null indicator while element 53 indicates an electrical generator capable of producing an

Current US Original Classification (1):
324/325

Current US Cross Reference Classification (2):
324/347

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Search Results - Record(s) 1 through 3 of 3 returned.

☐ 1. Document ID: US 20040140801 A1

L120: Entry 1 of 3 File: PGPB Jul 22, 2004

PGPUB-DOCUMENT-NUMBER: 20040140801
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20040140801 A1

TITLE: Combined characterization and inversion of reservoir parameters from nuclear, NMR and resistivity measurements

PUBLICATION-DATE: July 22, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY
Schoen, Juergen S.	Leoben	TX	AT
Fanini, Otto N.	Houston	TX	US
Georgi, Daniel	Houston		US

US-CL-CURRENT: 324/303

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw D

☐ 2. Document ID: US 20020101235 A1

L120: Entry 2 of 3 File: PGPB Aug 1, 2002

PGPUB-DOCUMENT-NUMBER: 20020101235
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20020101235 A1

TITLE: Combined characterization and inversion of reservoir parameters from nuclear, NMR and resistivity measurements

PUBLICATION-DATE: August 1, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY
Schoen, Juergen S.	Leoben	TX	AT
Fanini, Otto N.	Houston	TX	US
Georgi, Daniel	Houston		US

US-CL-CURRENT: 324/303

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw. D

☐ 3. Document ID: US 6686736 B2

L120: Entry 3 of 3 File: USPT Feb 3, 2004

US-PAT-NO: 6686736
DOCUMENT-IDENTIFIER: US 6686736 B2

TITLE: Combined characterization and inversion of reservoir parameters from nuclear, NMR and resistivity measurements

DATE-ISSUED: February 3, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Schoen; Juergen S.	Leoben			AT
Fanini; Otto N.	Houston	TX		
Georgi; Daniel	Houston	TX		

US-CL-CURRENT: 324/303

Full | Title | Citation | Front | Review | Classification | Date | Reference | | | Claims | KWIC | Draw. D

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Term	Documents
PARALLEL	3379142
PARALLELS	18267
PERMEABILITY	223358
PERMEABILITIES	8924
PERMEABILITYS	4
RATIO	2374601
RATIOS	451530
HORIZONTAL$2	0
HORIZONTAL	2107341
HORIZONTALA	32
HORIZONTALAD	1
(L117 AND (((HORIZONTAL$2 OR TRANSVERS$4 OR ORTHOGONAL$2 OR PERPENDICULAR$2) WITH (VERTICAL$2 OR LONGITUD$6 OR PARALLEL) WITH (PERMEABILITY OR PERMEABL$3)) SAME	

((HORIZONTAL$2 OR TRANSVERS$4 OR ORTHOGONAL$2 OR PERPENDICULAR$2) WITH (VERTICAL$2 OR LONGITUD$6 OR PARALLEL) WITH (RESISTIV$5)) SAME (RATIO))).PGPB,USPT,USOC,EPAB,JPAB,DWPI,TDBD.	3

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